Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (currently amended) A method of humidifying a process gas stream to a fuel cell, the method comprising:

(a) introducing steam into the process gas stream, so as to humidify the process gas stream at a first temperature and so as to provide the process gas stream with excess humidity;

(b) cooling the process gas stream in a first heat exchanger at a second temperature, lower than the first temperature, to cause condensation of ~~excess~~ moisture;

(c) removing ~~excess~~ condensed moisture from the process gas stream;

(d) passing the process gas through a second heat exchanger to give the process gas stream a third temperature, and delivering the process gas stream at a ~~known,~~the third temperature, whereby the absolute humidity level in the process gas stream is determined from the maximum relative humidity at the second temperature;

(e) supplying the humidified process gas stream at the third temperature to the fuel cell~~, and maintaining the third temperature of the process gas stream from step (d) at the third temperature, until the process gas stream reaches the inlet of the fuel cell~~; and

(f) providing a common coolant supply and removing excess heat from the first and second heat exchangers with the common coolant supply

Claim 2 (previously presented) A method as claimed in claim 1, wherein step (d) includes heating the process gas stream to the third temperature, whereby the third temperature is greater than the second temperature.

Claim 3 (cancelled)

Claim 4 (previously presented) A method as claimed in claim 2, which includes introducing steam into the gas stream in an amount sufficient to supersaturate the process gas stream.

Claim 5 (cancelled)

Claim 6 (previously amended) A method as claimed in claim 1, which includes maintaining the third temperature of the process gas stream, by delivering the process gas stream through a supply line, and providing a heating element extending along the supply line.

Claim 7 (original) A method as claimed in claim 2, wherein the first temperature is in the range 10 °C to 120°C.

Claim 8 (original) A method as claimed in claim 7, wherein the second temperature is in the range 5°C to 115°C.

Claim 9 (original) A method as claimed in claim 8, wherein the third temperature is in the range 10°C to 120°C, and wherein the relative humidity of the process gas stream at the third temperature is in the range of substantially 0 to 100%.

Claim 10 (cancelled)

Claim 11 (cancelled)

Claim 12 (cancelled)

Claim 13 (cancelled)

Claim 14 (cancelled)

Claim 15 (cancelled)

Claim 16 (cancelled)

Claim 17 (cancelled)

Claim 18 (cancelled)

Claim 19 (previously presented) A method as claimed in claim 1, 2, ~~or~~ 4 or 6 wherein step (b) ~~comprises passing the process gas stream through a first heat exchanger, and~~includes passing a first heat transfer fluid through the first heat exchanger to cool the process gas stream to the second temperature, ~~and~~ step (d) comprises ~~passing the process gas stream through a second heat exchanger and~~ passing a second heat transfer fluid through the second heat exchanger to heat the process gas stream to the third temperature, and cooling both of the first and second heat transfer fluids with coolant from the common coolant supply.

Claim 20 (original) A method as claimed in claim 19, which includes passing the first heat transfer fluid through a first temperature control circuit, including a first heater and a third heat exchanger, for controlling the temperature of the first heat transfer fluid, ~~and~~ passing the second heat transfer fluid through a second temperature control circuit, including a second heater and a fourth heat exchanger, for controlling the temperature of the second heat transfer fluid, and passing coolant from the common coolant supply through the third and fourth heat exchangers.

Claim 21 (withdrawn) A method of humidifying a process gas stream, the method comprising:

(a) humidifying the process gas stream at a first temperature so as to provide the process gas stream with excess humidity;

(b) cooling the process gas stream at a second temperature, lower than the first temperature, to cause condensation of excess moisture;

(c) removing excess condensed moisture from the process gas stream;

(d) delivering the process gas stream at a known, third temperature, whereby the absolute humidity in the process gas stream is determined from the maximum relative humidity at the second temperature;

wherein step (b) includes passing the process gas stream through a first heat exchanger, passing a first heat transfer fluid through the first heat exchanger to cool the process gas stream to the second temperature, and passing the first heat transfer fluid through a first temperature control circuit including at least a third heat exchanger, for controlling the temperature of the first heat transfer fluid.

Claim 22 (withdrawn) A method as claimed in claim 21, which includes providing, in the first heat transfer circuit, a first heater for heating the first heat transfer fluid.

Claim 23 (withdrawn) A method as claimed in claim 21, which includes, prior to step (d) heating the process gas stream in a second heat exchanger to the third temperature, whereby the third temperature is greater than the second temperature, and passing a second heat transfer fluid through the second heat exchanger to heat the process gas stream.

Claim 24 (withdrawn) A method as claimed in claim 23, which includes passing the second heat transfer fluid through a second temperature control circuit including a second heater and a fourth heat exchanger, for controlling the temperature of the second heat transfer fluid.

Claim 25 (withdrawn) A method as claimed in claim 24, which includes maintaining the third temperature of the process gas stream, by delivering the process gas stream through a supply line and providing a heating element extending along the supply line.

Claim 26 (withdrawn) A method as claimed in claim 25, which includes determining the relative humidity of the process gas stream at the third temperature solely from measured values of the second and third temperatures, and setting the second and third temperatures, to obtain a desired level of relative humidity in the process gas stream.

Claim 27 (currently amended) A method of humidifying fuel and oxidant~~a~~ process gas stream~~s~~ to a fuel cell, the method comprising:

(a) humidifying the ~~process~~ fuel gas stream at a first temperature so as to provide the ~~process~~ fuel gas stream with excess humidity;

(b) cooling the ~~process~~ fuel gas stream in a first fuel heat exchanger at a second temperature, lower than the first temperature, to cause condensation of ~~excess~~ moisture;

(c) removing ~~excess~~ condensed moisture from the ~~process~~ fuel gas stream; ~~and~~

(d) passing the fuel gas stream through a second fuel heat exchanger to give the fuel gas stream a third temperature, and delivering the ~~process~~ fuel gas stream at ~~a known~~the~~,~~ third temperature, whereby the absolute humidity level in the ~~process~~ fuel gas stream is determined from the maximum relative humidity at the second temperature; ~~and~~

(e) supplying the humidified ~~process~~ fuel gas stream at the third temperature to the fuel cell~~, and maintaining the third temperature of the process gas stream from step (d) at the third temperature, until the process gas stream reaches the inlet of the fuel cell~~;

(f) humidifying the oxidant gas stream at a fourth temperature so as to provide the oxidant gas stream with excess humidity;

(g) cooling the oxidant gas stream in a first oxidant heat exchanger at a fifth temperature, lower than the fourth temperature, to cause condensation of moisture;

(h) removing condensed moisture from the oxidant gas stream;

(i) passing the oxidant gas stream through a second oxidant heat exchanger to give the oxidant gas stream a sixth temperature and delivering the oxidant gas stream at the sixth temperature, whereby the absolute humidity level in the oxidant gas stream is determined from the maximum relative humidity at the fifth temperature; and

(j) supplying the humidified oxidant gas stream at the sixth temperature to the fuel cell.

Claim 28 (currently amended) A method as claimed in claim 27, ~~wherein~~ including at least one of: in step (d) ~~includes~~ heating the ~~process~~ fuel gas stream to ~~a~~ the third temperature greater than the second temperature.; and, in step (j) heating the oxidant gas stream to the sixth temperature greater than the fifth temperature.

Claim 29 (previously presented) A method as claimed in claim 1, ~~were~~ wherein step (a) comprises injecting steam directly into the process gas stream, both to heat and to humidify the process gas stream.

Claim 30 (previously presented) A method as claimed in claim 21, ~~were~~ wherein step (a) comprises injecting steam directly into the process gas stream, both to heat and to humidify the process gas stream.

Claim 31 (previously presented) A method as claimed in claim 27, ~~were~~ wherein step (a) comprises injecting steam directly into the ~~process~~ fuel gas stream, and step (f) comprises injecting steam into the oxidant gas stream, both to heat and to humidify the fuel gas stream and the oxidant gas stream.

Claim 32 (new) A method as claimed in claim 27, including:

(k) providing a first common coolant supply for the first and second fuel heat exchangers and removing excess heat from the first and second fuel heat exchangers with the first common coolant supply, and providing a second common coolant supply for the first and second oxidant heat exchangers and removing excess heat from the first and second oxidant heat exchangers with the second common coolant supply.

Claim 33(new) A method as claimed in claim 32, including cooling the first fuel heat exchanger with a first heat transfer fluid and cooling the second fuel heat exchanger with a second fuel heat transfer fluid, cooling both the first and second fuel heat transfer fluids with the first common coolant supply, cooling the first oxidant heat exchanger with a first oxidant heat transfer fluid and cooling the second oxidant heat exchanger with a second oxidant heat transfer fluid, and cooling the first and second oxidant heat transfer fluids with a second common coolant supply.